

Via Certified US Mail
Receipt No. 7002 0860 0000 6593 3290

April 19, 2005

Scott Alfonse, Director of Environmental Stewardship
City of New Bedford
City Hall
133 William Street
New Bedford, Massachusetts 02740

Re: Review of Risk-Based Cleanup Request
School Site at McCoy Field
New Bedford, Massachusetts

Dear Mr. Alfonse:

This is written in response to your March 21, 2005 Risk-Based Cleanup Request (Application) for the McCoy Field School site located in New Bedford, Massachusetts (the Site). This Application was prepared and submitted by BETA Group, Inc. to support a risk-based cleanup and disposal plan for PCB-contaminated materials on the Site under 40 CFR §761.61(c).

EPA has conducted a review of the Application, including the Human Health Risk Assessment which was submitted in support of the Application. Specific comments on the information provided in the Application are provided in Attachment A; comments on the Human Health Risk Assessment are provided in Attachment B; comments on the proposed engineered cap design are provided in Attachment C. Please note that EPA also provided these cap design comments to the City via e-mail on April 5, 2005.

Should you have any questions on these comments, please feel free to contact me at (617) 918-1527.

Sincerely,

Kimberly N. Tisa, PCB Coordinator
Office of Ecosystem Protection

cc: File

attachments

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 1
1 Congress Street, Suite 1100
BOSTON, MA 02114-2023**

MEMORANDUM

DATE: April 18, 2005

SUBJ: Risk-Based Cleanup Request, March 21, 2005
McCoy Field, New Bedford, MA

FROM: Kimberly N. Tisa, PCB Coordinator
Office of Ecosystem Protection/CPT

TO: Scott Alfonse, Director of Environmental Stewardship
City of New Bedford

SUMMARY

The following summary identifies items and/or deficiencies found during review of the above referenced document. Comments on the Human Health Risk Assessment and proposed engineered cap design will be provided separately.

1. The text indicates that the proposed warning layer would be placed only in the paved areas. EPA's recommendation included all areas (outside the building footprint) to provide a warning before contaminated material. Please clarify why the City is not proposing the warning barrier in the landscaped areas.
2. In correlating sample analytical results from the data tables to the figures, the figures are unclear with respect to sampling locations. There is no explanation on the figures themselves regarding symbols, color changes, etc.
3. In comparing the figures, (e.g. Figures 1.1 and 1.2 versus 1.3 thru 1.5), it is difficult to determine where the 1.3 thru 1.5 are on Figures 1.1 and 1.2. This could possibly be eased by using the same color scheme on each of the Figures or the City could provide some other alternative.
4. For the PCB analytical results for the Landscaped Area (Appendix C), the shading for exceedances is missing. Please correct.
5. In reviewing the sample data tables (Appendix C), there is no distinction on sample post-removal versus confirmatory samples (e.g. following excavation those PCB concentrations remaining).

6. The sample data tables for the PCBs (Appendix C) are expressed in $\mu\text{g/Kg}$ units. Given that the narrative is expressed in mg/Kg , the units should be consistent for ease of understanding and data interpretation.
7. Table 4 provides PCB Aroclor results in groundwater. As previously indicated, a review of the raw chromatograms is necessary to assess partitioning concerns.
8. The QA/QC discussion on data useability is missing. Upon review of the PCB data provided in Appendix C, specifically the duplicates, MS, and MSDs, there appears to be significant variations in the data. For example, at PC191-L the MS and MSD results are lower than the original sample results; at PC198-B the MS is 100% greater than the MSD; at PC255-1-4', the duplicate was ND while the sample had approximately 10 ppm PCBs; at PCB1006-1-3', the original sample showed 468 ppm PCBs while the duplicate showed 12.5 ppm PCBs; etc. Based on EPA's review, the data as presented requires a complete discussion with respect to acceptability and useability. Please note that EPA provided only select sampling locations and that a comprehensive evaluation of all the data by the City is required.
9. With respect to the information provided in Appendix C, EPA noted that for some of the duplicate, MS, and MSD samples, the associated reference sample was not identified. Please correct.
10. Further details are needed on the proposed long-term monitoring and maintenance plans. Conceptual information has been provided and for this project EPA will require a more detailed discussion on the engineered cap maintenance and the indoor air monitoring, including methodologies and action limits.



MEMORANDUM

TO: Laura Casey cc: Jim Buchert
11.1126.1000.001.01

FROM: Diane Sinkowski

DATE: April 14, 2005

SUBJECT: Review of “Risk-Based Cleanup Request, School Site at McCoy Field, New Bedford, Massachusetts” (Revision 0, March 21, 2005)

As requested, I have reviewed the human health risk assessment presented in the risk-based cleanup request submitted to EPA Region 1. The following are my responses to the 4 issues presented in your March 21, 2005 Technical Direction.

1. Does the Risk Assessment consider all exposure scenarios and pathways based on the proposed end use of the Site? If not, please provide comments and/or recommendations. Please include Versar's justifications using appropriate EPA procedures and guidance.

Response:

The Risk Assessment identifies the following potential receptors at the School Site:

- Students,
- School employees,
- Visitors, and
- Municipal employees (public works, water department workers).

However, any possible exposure pathways are considered to be incomplete due to the engineered barriers or Activity and Use Limitation to be placed on the School Site. Therefore, no exposure/risk calculations were performed. I agree with the selection of these potential receptors and pathways, as well as the conclusion that these pathways would be incomplete.

Additionally, current on-Site workers and off-Site residents are identified as potentially exposed receptors due to inhalation of PCBs in suspended soil particulates from excavation/construction activities at the Site. PCB risk-based air concentrations (RBACs) were calculated for current on-Site workers and off-Site residents by ESS Group, Inc. (ESS) and are documented in a letter dated May 17, 2004. The

RBAC calculation also incorporates inhaled particulates that are expelled by the lungs and then ingested. Generally, EPA guidance (such as the “Supplemental Guidance for Developing Soil Screening Levels for Superfund Sites”- 2002) suggests that construction workers potentially may be exposed to contaminants in soil by ingestion, dermal contact, and inhalation. According to the risk assessment in the Risk-based Cleanup Request, soil management and dust monitoring procedures are discussed in the EPA Work Plan. Are the dermal contact and direct ingestion of soil pathways for the construction worker eliminated by these controls? Could additional information be provided regarding these pathways and on-Site workers?

2. Are there areas where data gaps exist and where additional information is required? Versar shall identify any data deficiencies, and if found, provide possible resolutions such as (but not limited to) the collection of additional samples or requesting additional information.

Response:

As mentioned above, I would like to know whether the soil ingestion and dermal pathway were considered to be incomplete, or has justification been provided for not assessing the pathways? Although an indirect soil ingestion calculation is performed, I would like to know why direct soil ingestion is not addressed.

3. Are the formulas provided in the Risk Assessment appropriate and are the calculations correct? If not, please provide comments and/or recommendations using appropriate EPA procedures and guidance.

Response:

- a. The RBACs calculations assume that half of the inhaled PM₁₀ is absorbed by the lungs and twice that amount of PCBs are expelled by the lungs and ingested. These assumptions are consistent with Massachusetts Department of Environmental Protection (MDEP), but not EPA guidance. EPA guidance assumes that all inhaled contaminants are absorbed by the lungs and also recommends assessing soil ingestion for construction workers, assuming a soil ingestion rate of 330 mg/day.
- b. EPA guidance does not recommend the use of relative absorption factors (RAFs) for ingestion and inhalation pathways. The risk assessment assumed an inhalation RAF of 1.0, so the inclusion of RAF does not affect the answer. The use of an RAF of 0.85 for ingestion would slightly change the results.

- c. The Henry's Law Constant (HLC) for Aroclor 1254 shown in Table 2 of the Risk Assessment, 3.79E-03, is not the dimensionless Henry's Law Constant (H'), as the column heading indicates. According to the reference cited, EPA's "Human Health Risk Assessment Protocol for Hazardous Waste Combustion Facilities" (EPA, 1998), the HLC for Aroclor 1254 is 3.79E-03 atm-m³/mol. H' for Aroclor 1254 is 1.55E-01 (calculated by multiplying HLC by a conversion factor of 41). Because H' for Aroclor 1254 is of the same order of magnitude as constituents that were evaluated for indoor air intrusion (Table 6, page 3 of 3, in the Risk Assessment), I would like to know why PCBs (i.e., Aroclor 1254) were not evaluated for indoor air intrusion.
4. Is there any additional information that has not been provided that should have been provided to support the proposed cleanup and reuse of this Site? For example, have there been similar requests for this type of cleanup and/or reuse where it was determined that the reuse as a school was inappropriate? If so, was this determination based on a technical and/or scientific finding or some other determination?

Response:

While no additional information has been provided with the submitted risk assessment regarding similar sites, I did identify, via an internet search, a couple of other sites with PCB soil contamination cleanup at an existing school or where a school was built post-remediation. Their locations are:

Allendale School, Pittsfield, Massachusetts

Elevated levels of PCBs were found in soils used as fill material at the school site, originating from the General Electric (GE) factory. A soil removal action was performed in 1999 and clean soil was used as backfill for excavated areas. Information on the Allendale School can be found on EPA's website for the GE/Housatonic River Site: <http://www.epa.gov/boston/ge/thesite/allendale.html>

New Beard Elementary School, Detroit, Michigan

A new elementary school was built on a former industrial site where PCBs, among other contaminants, had been detected in subsurface soil samples. Several soil removal actions were undertaken, including soil removal from areas with PCB concentrations exceeding Michigan Department of Environmental Quality residential cleanup levels, even though the soils were beneath a property cap. The cap was replaced once confirmation samples showed that the contaminated soils had been removed.

The Agency for Toxic Substances and Disease Registry (ATSDR) Health Consultation for the New Beard Elementary School can be found at:

http://www.atsdr.cdc.gov/HAC/PHA/newbeard/nbe_toc.html

Please feel free to contact me at (703) 750-3000 ext. 737 if you have any comments or questions.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 1
1 Congress Street, Suite 1100
BOSTON, MA 02114-2023

MEMORANDUM

DATE: April 5, 2005

SUBJ: Comments on Proposed Engineered Cap
McCoy Field, New Bedford Massachusetts

FROM: Yoon-Jean Choi, P.E.
Hydrogeology and Waste Geotechnics
US EPA Region 1 (MC: HBS)

TO: Kim Tisa, PCB Coordinator (CPT)
Office of Ecosystem Protection

As requested, I have reviewed the *Risk-Based Cleanup Request, Rev. 0, March 21, 2005*, for the School Site at McCoy Field, New Bedford, Massachusetts which was submitted by BETA Group on behalf of the City of New Bedford School Department. My comments focus on the adequacy of the technical design for the engineered cap proposed for the Site, including the building footprint.

General Comments

- 1 It appears that the proposed Risk-Based Cleanup Request is based on MCP requirements (all PCB remediation waste less than 100 ppm encountered in the process of characterizing soil is to be covered by soils, pavement and buildings). However, the PCB regulations at 40 CFR Part 761 provide for a risk-based determination for on-site disposal provided that a finding can be made that there is no unreasonable risk to human health or the environment (see §761.61(c)). The City has proposed a soil/asphalt cap outside the school building footprint and a passive ventilation system/solid vapor barrier beneath the building footprint. While it appears that the proposed capping designs are conservative given the site contaminants, insufficient information clearly justifying these proposed designs was contained in the Request. A short summary on Fate and Transport was included in the Human Health Risk Characterization Section, however, this discussion should be expanded as part of the discussion supporting the proposed institutional controls for this Site. In addition, fate and transport should be considered when designing the long-term O&M plan.

2. The following technical specifications need to be provided:
 - a. Environmental control plan, storm water management plan, erosion control plan: Detailed environmental control plan and storm water management plan to handle (properly excavate, store and dust control) the PCB contaminated soils both during site grading and during storm events are not provided. In addition, locations of site erosion control devices (ie. silt fences, hay bales, etc) and horizontal limits of proposed geotextile separation layer should be provided on the design figures.
 - b. Geotextiles and Warning barrier: It is unclear what types and physical properties of the geotextile (and warning barrier) are proposed for use as a separation layer between the clean fill and contaminated soil or protection layer for the vapor barrier. Technical specifications for these materials should be included in the technical specifications.
 - c. Topsoil layer information was not provided.
3. The "Engineer" should be responsible for Earthwork (Section 02200) rather than "Architect."

Specific Comments

1. Section 1.4 page 5 of 18: Intrusion into fill material underneath the exposure management barriers may also result from root penetrations and animal burrowing over time. The thick geotextile may discourage animal burrows, but tree roots can penetrate through the geotextile (see Figure 6).
2. Section 3.3.4 page 12 of 18 bullets 5 and 6: The statements "over the gravel" (bullet 5) and "over the granular material" (bullet 6)" are not consistent with those described in Figure 5 (section 3/L6 Bituminous concrete roadway pavement). Please correct them as appropriate.
3. Attachment B Section 07133 2.2.B 2nd Table and 2.2.C and D Geotextile: It is unclear which geotextile are proposed below and above the vapor barrier regarding the thickness and unit weight (eg. 8 oz./sf or thicker). Please clarify..
4. Attachment E:
 - a. Background (3) Asphalt thickness: A minimum thickness of the asphalt pavement is 3 inches rather than 6 inches. Change it as appropriate.

- b. Background and Cap maintenance: It is stated that "the purpose of these three barriers is to prevent infiltration of water." The asphalt pavement and soil cover in the landscape area (except for buildings) may minimize the infiltration of water by promoting surface runoff during storm events, but can not prevent infiltration of water entirely through cracks and openings developed due to effects of dry/wet and freeze/thaw cycles over time. Thus maintaining the integrity of the cover by proper repairs is important for long-term O&M.

5. Attachment G

- a. Earth work should be performed under the direction of "Engineer" (not "Architect"). Please correct this.
- b. Section 3.04.A.2. Samples and Testing: Test methods and testing frequency for all fill material are not provided. Please provide the information on what tests and how many tests should be performed 1) as the material is delivered to the project site to determine that the material meets the specified requirements for each material source, and 2) after the material is installed and in-place.
- c. Section 3.04.B.1 Lift thickness: It is unclear whether the proposed lift thickness is loose or compacted. Please clarify.

6. Figure 4

- a. Typical 1: It is unclear why the PRCVS is located above the compacted fill.
- b. Typical 3: What is the purpose of "Gas & Vapor membrane 80 Dry mil' and how will it be installed above the grade beam?
- c. Typical 4 and Typical 5: Provide details of how the PVC vent and PVC header pipe are connected.

